

WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY
REGULATOR

22 July – 28 July 2012

Spot market prices

Figure 1 shows weekly average prices for the first four weeks of the carbon price. Average prices for the second and third week fell compared to the first week, mainly as a result of reduced demand, and increased wind generation in South Australia.

Average prices for the week 22 to 28 July however, were higher than the previous week. There were short duration price spikes in all mainland regions over the evening peak on Monday and Tuesday.

Figure 1: Volume weighted average spot price by region (\$/MWh)

	Qld	NSW	VIC	SA	Tas
Average price for 22 July – 28 July 2012	69	68	66	71	56
Average price for 15 July – 21 July 2012	60	62	62	71	53
Average price for 8 July – 14 July 2012	63	67	70	74	58
Adjusted average price 1 July – 7 July 2012*	68	75	83	91	68
Average price for 1 July – 7 July 2012	68	75	108	116	74
11/12 financial year	30	31	28	32	33

*price spikes in South Australia, Victoria and Tasmania on 2 July due to network problems have been removed.

Further information is provided in Appendix A when the spot price exceeds three times the weekly average and is above \$250/MWh or less than -\$100/MWh. Longer term market trends are attached in Appendix B¹.

Financial markets

Figures 2 to 9 show futures contract² prices traded on the Australian Securities Exchange (ASX) as at close of trade on Monday 30 July 2012. Figure 2 shows the base futures contract prices for the next three calendar years, and the average over these three years. Also shown are percentage changes³ from the previous week.

¹ Monitoring the performance of the wholesale market is a key part of the AER's role and an overview of the market's performance in the long term is provided on the AER website. Long-term statistics can be found there on, amongst other things, demand, spot prices, contract prices and frequency control ancillary services prices. To access this information go to www.aer.gov.au -> Australian energy industry -> Performance of the energy sector

² Futures contracts traded on the ASX are listed by d-cyphaTrade (www.d-cyphatrade.com.au). A futures contract is typically for one MW of electrical energy per hour based on a fixed load profile. A base load profile is defined as the base load period from midnight to midnight Monday to Sunday over the duration of the contract quarter. A peak load profile is defined as the peak-period from 7 am to 10 pm Monday to Friday (excluding Public holidays) over the duration of the contract quarter.

³ Calculated on prices prior to rounding.

Figure 2: Base calendar year futures contract prices (\$/MWh)

	QLD		NSW		VIC		SA	
Calendar Year 2013	57*	1%	61*	1%	57*	1%	60	0%
Calendar Year 2014	52	0%	56	0%	52*	0%	55	0%
Calendar Year 2015	55	0%	53	0%	52	0%	69	0%
Three year average	55	1%	57	0%	53	0%	62	0%

Source: d-cyphaTrade www.d-cyphatrade.com.au
 * denotes trades in the product.

Figure 3 shows the \$300 cap contract price for Q1 2013 and calendar year 2013 and the percentage change⁴ from the previous week.

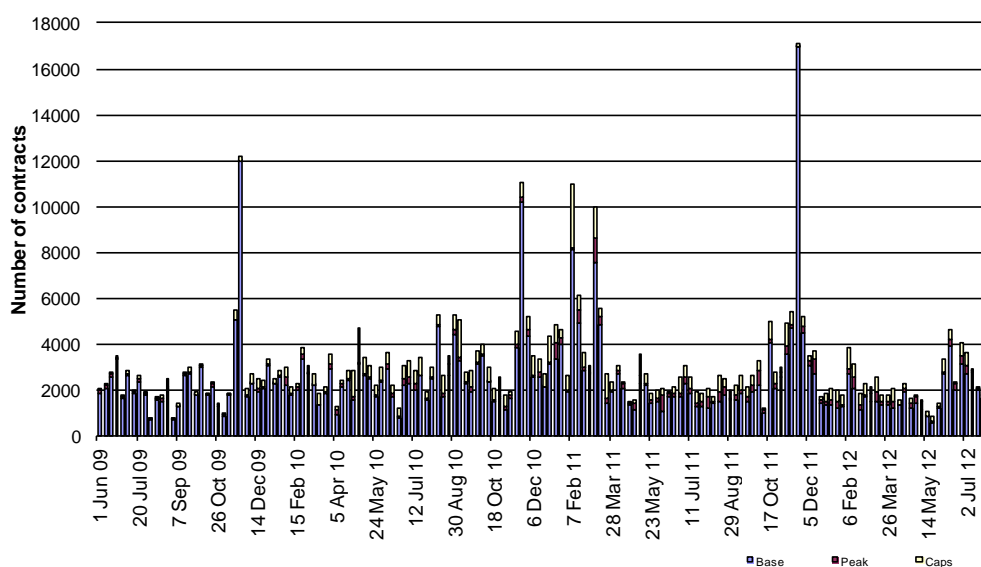
Figure 3: \$300 cap contract prices (\$/MWh)

	QLD		NSW		VIC		SA	
Q1 2013 (% change)	14	0%	14*	0%	14*	3%	21	0%
2013 (% change)	6	-1%	7	0%	6	2%	9	0%

Source: d-cyphaTrade www.d-cyphatrade.com.au
 * denotes trades in the product.

Figure 4 shows the weekly trading volumes for base, peak and cap contracts. The date represents the end of the trading week.

Figure 4: Number of exchange traded contracts per week

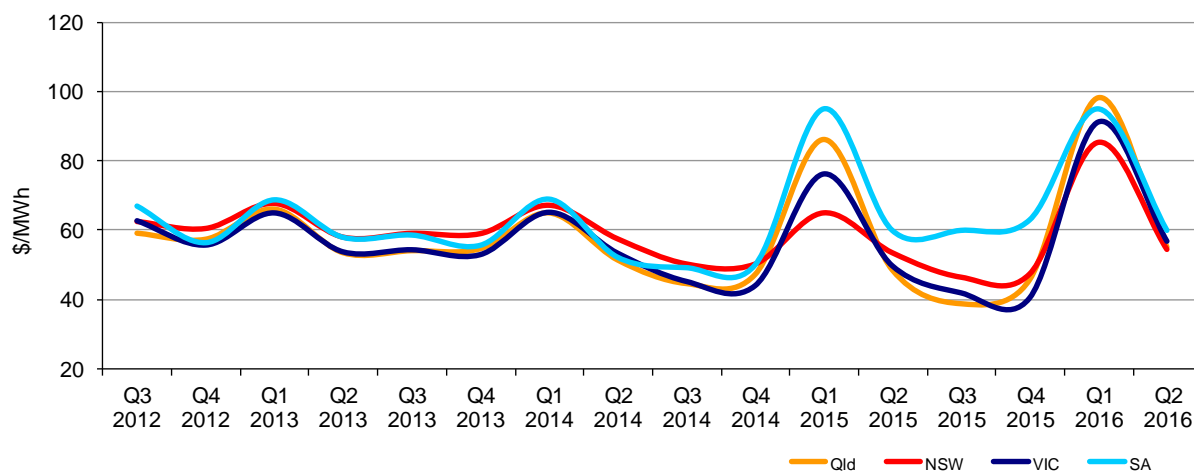


Source: d-cyphaTrade www.d-cyphatrade.com.au

⁴ Calculated on prices prior to rounding.

Figure 5 shows the prices for base contracts for each quarter for the next four financial years.

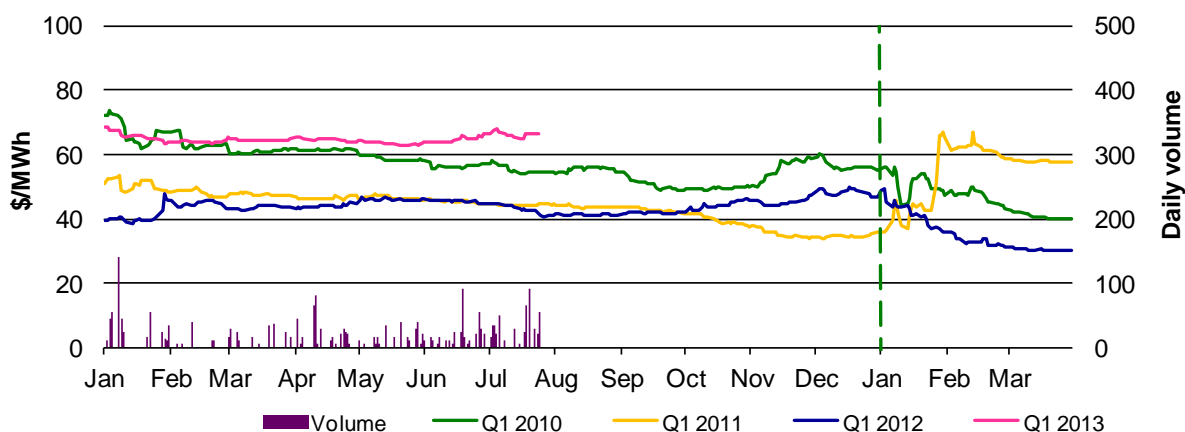
Figure 5: Quarterly base future prices Q3 2012 – Q2 2016



Source: d-cyphaTrade www.d-cyphatrade.com.au

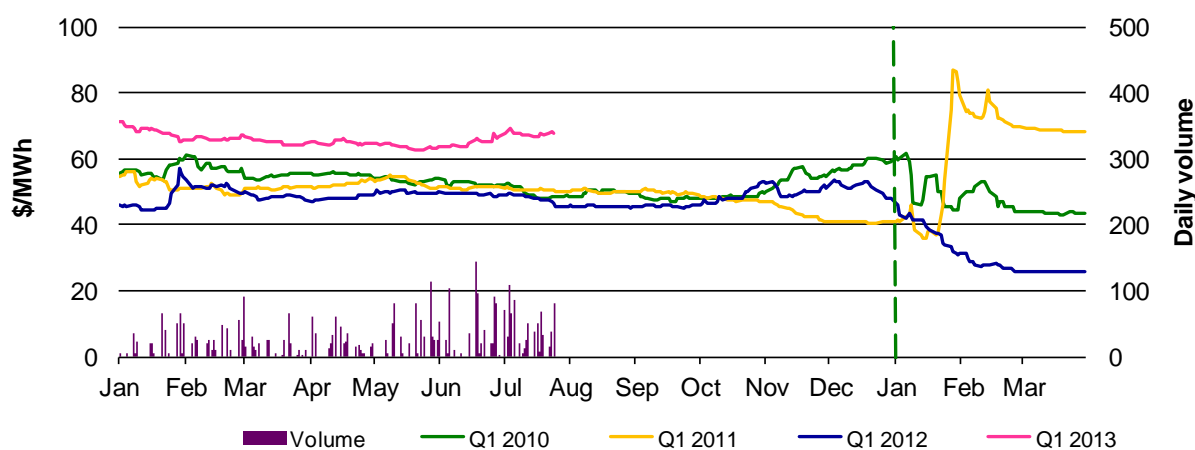
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2010, 2011, 2012 and 2013. Also shown is the daily volume of Q1 2013 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.

Figure 6: Queensland Q1 2010, 2011, 2012 and 2013



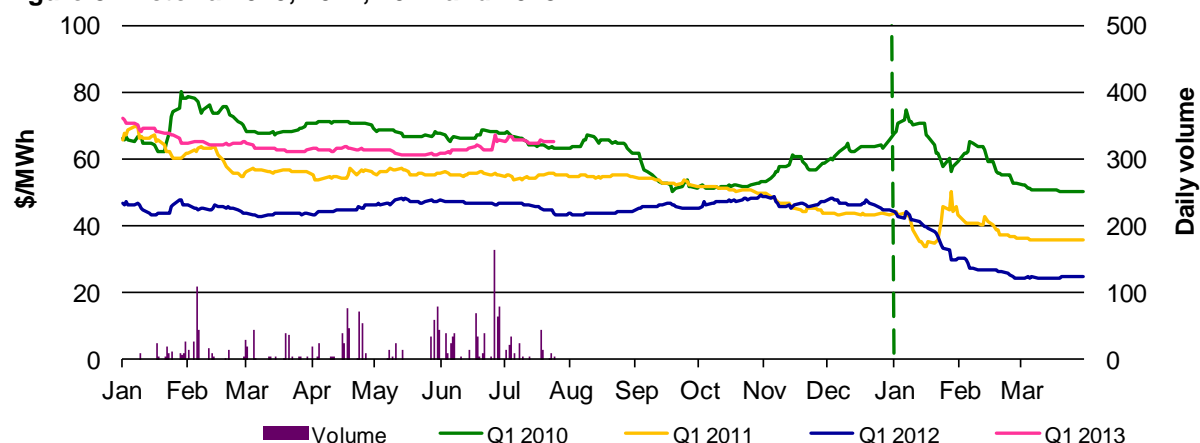
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 7: New South Wales Q1 2010, 2011, 2012 and 2013



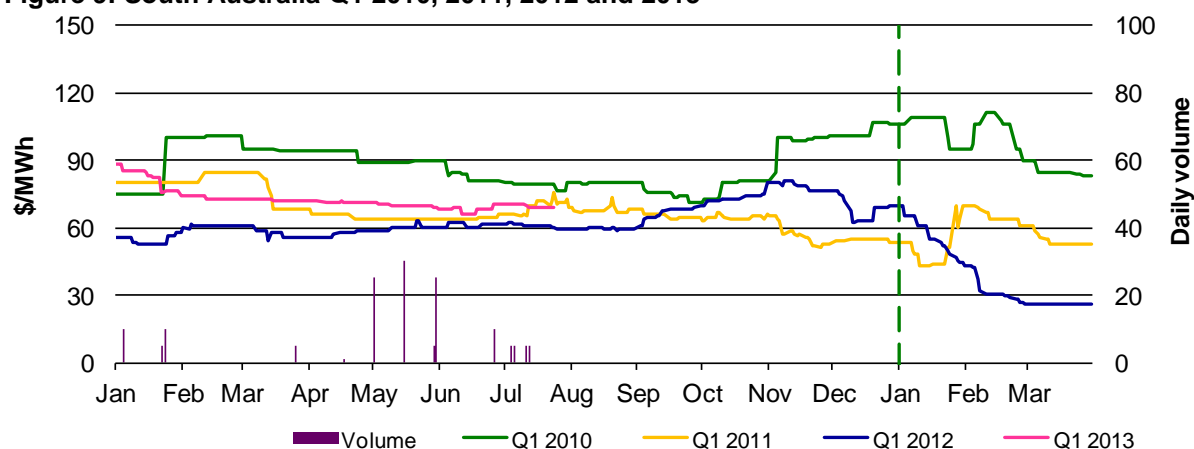
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 8: Victoria 2010, 2011, 2012 and 2013



Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 9: South Australia Q1 2010, 2011, 2012 and 2013



Source: d-cyphaTrade www.d-cyphatrade.com.au

*The daily volume scale for South Australia is smaller than for other regions to reflect the lower liquidity in the market in South Australia.

Spot market forecasting variations

The AER is required under the National Electricity Rules to determine whether there is a significant variation between the forecast spot price published by the Australian Energy Market Operator (AEMO) and the actual spot price and, if there is a variation, state why the AER considers the significant price variation occurred. It is not unusual for there to be significant variations as demand forecasts vary and as participants react to changing market conditions. There were 46 trading intervals throughout the week where actual prices varied significantly from forecasts⁵. This compares to the weekly average in 2011 of 78 counts and the average in 2010 of 57. Reasons for these variances are summarised in Figure 10⁶.

Figure 10: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	0	13	0	0
% of total below forecast	18	52	0	17

⁵ A trading interval is counted as having a variation if the actual price differs significantly from the forecast price either four or 12 hours ahead.

⁶ The table summarises (as a percentage) the number of times when the actual price differs significantly from the forecast price four or 12 hours ahead and the major reason for that variation. The reasons are classified as availability (which means that there is a change in the total quantity or price offered for generation), demand forecast inaccuracy, changes to network capability or as a combination of factors (when there is not one dominant reason). An instance where both four and 12 hour ahead forecasts differ significantly from the actual price will be counted as two variations.

Demand and bidding patterns

The AER reviews demand, network limitations and generator bidding as part of its market monitoring to better understand the drivers behind price variations. Figure 11 shows the weekly change in total available capacity at various price levels during peak periods⁷. For example, in Queensland 260 MW less capacity was offered at prices under \$20/MWh this week compared to the previous week. Also included is the change in average demand during peak periods, for comparison.

Figure 11: Changes in available generation and average demand compared to the previous week during peak periods

MW	<\$20/MWh	Between \$20 and \$50/MWh	Total availability	Change in average demand
QLD	-260	-207	-499	-12
NSW	89	-540	-919	28
VIC	300	80	659	101
SA	-14	6	-20	-44
TAS	-145	156	73	100
TOTAL	-30	-505	-706	173

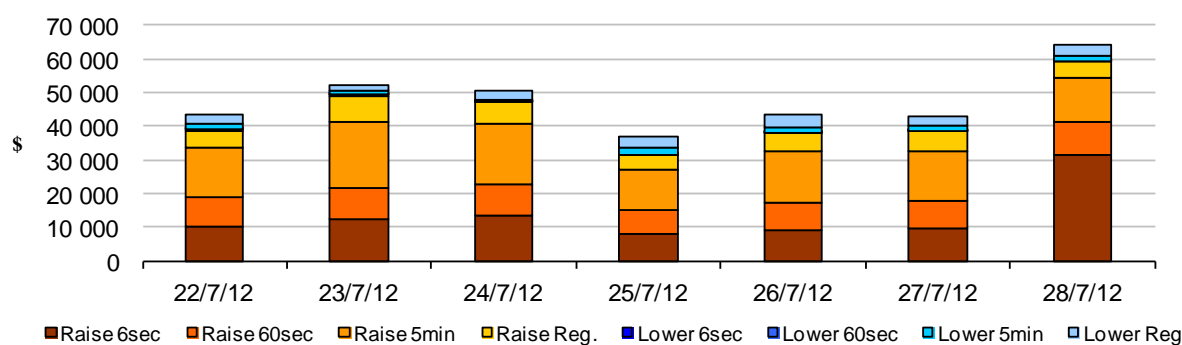
Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$280 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$54 000 or less than one per cent of energy turnover in Tasmania.

Figure 12 shows the daily breakdown of cost for each FCAS for the NEM.

Figure 12: Daily frequency control ancillary service cost



Australian Energy Regulator August 2012

⁷ A peak period is defined as between 7 am and 10 pm on weekdays.

22 July – 28 July 2012

National

On Monday evening the spot price was aligned across all mainland regions and the price was greater than three times the weekly average price and above \$250/MWh (in at least one region)⁸. The AER uses the New South Wales prices as a proxy when prices on the mainland are aligned.

Monday, 23 July

6 PM	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	248.41	151.92	159.33
Demand (MW)	28 746	28 760	29 132
Available capacity (MW)	36 761	36 706	37 398
6:30 PM	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	291.66	308.64	282.00
Demand (MW)	29 170	29 271	29 580
Available capacity (MW)	36 687	36 842	37 420
7 PM	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	274.89	303.67	269.55
Demand (MW)	29 093	29 215	29 458
Available capacity (MW)	36 826	36 867	37 420

Conditions at the time saw demand and available capacity close to forecast, but a number of low cost generators were out of service on the day.

At 4.19 pm, effective from 5.05 pm, Origin Energy rebid a total of 332 MW of capacity at Uranquinty units 13 and 14 from prices of \$300/MWh and \$134/MWh, respectively, to under \$92/MWh, committing unit 13 into service and bringing the start of unit 14 forward 30 minutes. The reason given was “Plant conds-MW redistribution unplanned DDPS st outage sl”. This reduced the 6 pm forecast price from \$149/MWh to \$123/MWh.

At 5.27 pm, effective from 5.35 pm, Macquarie Generation shifted 520 MW of capacity at Bayswater from prices below \$55/MWh to around \$266/MWh. The reason given was “Unforecast start of GT’s in NSW and QLD”. This increased the 6 pm forecast price from \$115/MWh to \$272/MWh.

There was no other significant rebidding.

⁸ The spot price in South Australia for 6 pm was \$264/MWh.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
22 July - 28 July 2012



Table 1: Financial year to date spot market volume weighted average price

Financial year	QLD	NSW	VIC	SA	TAS
2012-13 (\$/MWh) YTD	65	68	77	83	60
2011-12 (\$/MWh) YTD	27	32	31	37	39
Change*	140%	114%	144%	125%	54%
2011-12 (\$/MWh)	30	31	28	32	33

Table 2: NEM turnover

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2012-13 (YTD)	\$1.112	16
2011-12	\$5.987	199
2010-11	\$7.445	204

Table 3: Recent monthly and quarterly spot market volume weighted average price and turnover

Volume weighted average (\$/MWh)	QLD	NSW	VIC	SA	TAS	Turnover (\$, billion)
Mar-12	28	26	24	26	36	0.396
Apr-12	30	34	33	30	36	0.457
May-12	26	29	27	30	33	0.434
June-12	35	37	38	31	35	0.619
July-12 (MTD)	65	68	77	83	60	1.112
Q3 2012 (QTD)	65	68	77	83	60	1.112
Q3 2011 (QTD)	27	32	31	37	39	0.517
Change*	140%	114%	144%	125%	54%	115.19%

Table 4: ASX energy futures contract prices at end of 30 July 2012

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2013								
Price on 23 Jul (\$/MWh)	65	88	67	89	65	89	69	108
Price on 30 Jul (\$/MWh)	66	89	68	89	65	89	69	108
Open interest on 30 Jul	888	108	1330	315	1184	78	109	0
Traded in the last week (MW)	260	25	236	80	75	0	0	0
Traded since 1 Jan 12 (MW)	2260	187	3702	308	2158	134	146	0
Settled price for Q1 12(\$/MWh)	30	37	26	28	25	29	26	30

Table 5: Changes to availability of low priced generation capacity offered to the market

Comparison:	QLD	NSW	VIC	SA	TAS	NEM
May 12 with May 11						
MW Priced <\$20/MWh	26	-1367	593	-94	34	-809
MW Priced \$20 to \$50/MWh	38	217	98	177	182	712
June 12 with June 11						
MW Priced <\$20/MWh	-685	-2047	-480	66	13	-3133
MW Priced \$20 to \$50/MWh	238	1100	269	40	168	1814
July 12 with July 11 (MTD)						
MW Priced <\$20/MWh	-3887	-1840	-1622	-161	-261	-7771
MW Priced \$20 to \$50/MWh	2401	-1187	411	-499	151	1276

*Note: These percentage changes are calculated on VWA prices prior to rounding

** Estimated value